

# SPINNER EasySnake - The Flexible Terahertz Waveguide Assembly



**SPINNER EasySnake** for E- and W-band performs the function of a **hollow metallic** waveguide but offers two degrees of freedom: flexible bending and twisting **in any direction** while delivering excellent measurement results at the same time. Even conventional flexible waveguides made of electrically conductive bellows are typically non-twistable i.e. resist torsion, which significantly limits the feasible test configurations.

They are also completely intolerant of minimally misalign or twisted flanges. The SPINNER EasySnake overcomes this by combining the flexibility of a conventional RF measurement cable with the excellent low-loss transmission characteristics of a conventional non-flexible waveguide system.

## Features

- Dielectric waveguide supported by unique tubular segments (patent pending)
- Flexible, i.e. bendable and twistable (eliminates installations problems caused by misalignment of flanges)
- Flex-stable, i.e. keeps chosen bending geometry
- Built-in transitions from dielectric to rectangular waveguide
- Insertion loss outperforms any coaxial cable and single-mode metallic waveguide
- Excellent amplitude stability with flexure and temperature change
- Length configurable in steps of 25 mm
- Mechanically protected and electrically shielded
- High-voltage decoupled waveguide transitions

## Applications

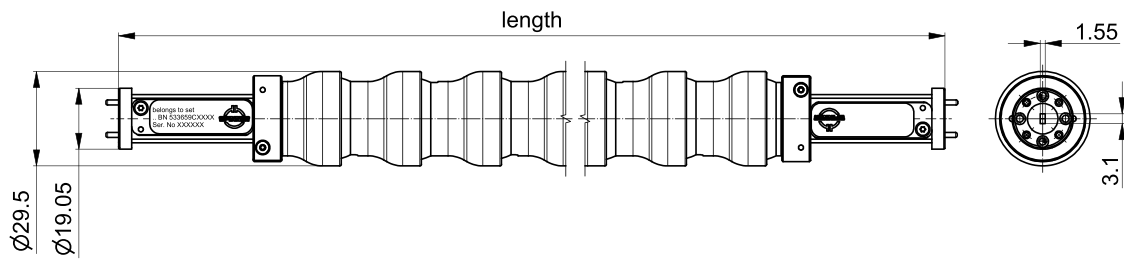
- General test bench use
- Network analysis (S-parameter measurement)
- Antenna testing (near field, far field)
- Environmental chamber and vibration testing



### Conference Paper

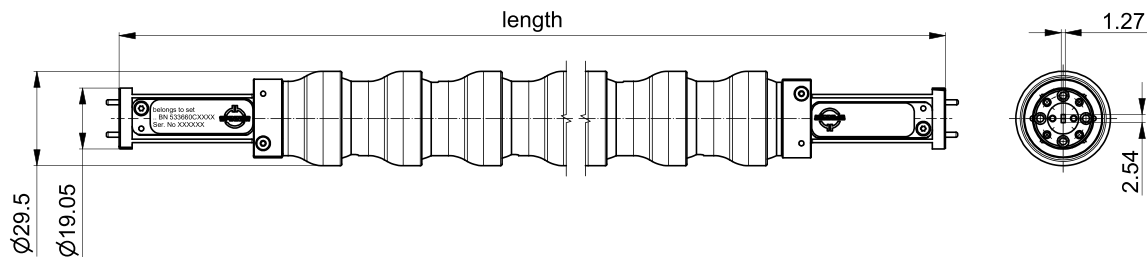
Nickel, H.-U. and Zovo, J., 2014, Novel flexible dielectric waveguide for millimeter and sub-millimeter frequencies – Design and characterization, 84th ARFTG Microwave Measurement Conference (ARFTG 84th), Boulder, Colorado, USA, Proceedings.

## 60 - 90 GHz, E-Band



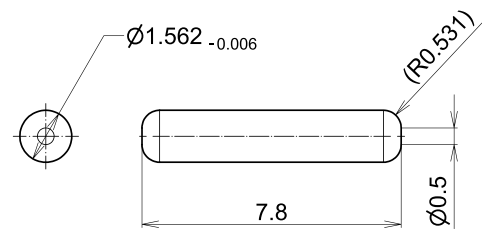
Part Number	Interface	Return Loss, min.	Insertion Loss, max.	Length (mm)	Quantity per Set
<a href="#">BN 533659C0107</a>	WR 12 / R 740	16 dB	1.8 dB @ 60 to 65 GHz	300	1
<a href="#">BN 533659C0207</a>			1.4 dB @ 65 to 90 GHz	300	2
<a href="#">BN 533659C0119</a>			2.6 dB @ 60 to 65 GHz	600	1
<a href="#">BN 533659C0219</a>			2.1 dB @ 65 to 90 GHz	600	2
<a href="#">BN 533659C0131</a>		14 dB	3.5 dB @ 60 to 65 GHz 2.9 dB @ 65 to 90 GHz	900	1

## 75 - 110 GHz, W-Band

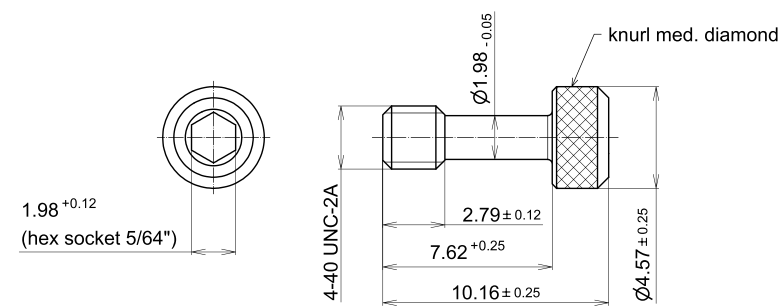


Part Number	Interface	Return Loss, min.	Insertion Loss, max.	Length (mm)	Quantity per Set
<a href="#">BN 533660C0107</a>	WR 10 / R 900	16 dB	0.4 dB @ 75 to 80 GHz	300	1
<a href="#">BN 533660C0207</a>			0.2 dB @ 80 to 110 GHz	300	2
<a href="#">BN 533660C0119</a>			0.8 dB @ 75 to 80 GHz	600	1
<a href="#">BN 533660C0219</a>			0.4 dB @ 80 to 85 GHz 0.2 dB @ 85 to 110 GHz	600	2
<a href="#">BN 533660C0131</a>		14 dB	0.8 dB @ 75 to 80 GHz 0.6 dB @ 80 to 85 GHz 0.4 dB @ 85 to 90 GHz 0.2 dB @ 90 to 110 GHz	900	1

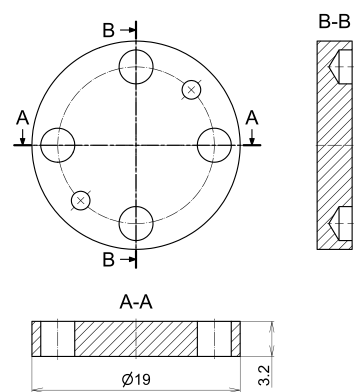
# Accessories for SPINNER EasySnake



Part Number	Description
<a href="#">A61785</a>	Aligning pin



Part Number	Description
<a href="#">A61786</a>	Socket-head cap screws 4-40 UNC



Part Number	Description
<a href="#">A62935</a>	Protective cap